

# Tyk 2 (H-135): sc-7205

## BACKGROUND

Tyk-2 belongs to the family of non-receptor janus tyrosine kinases, which regulate a spectrum of cellular functions occurring downstream of activated cytokine receptors in the lympho-hematopoietic system. Immunological stimuli, such as interferons and cytokines, recruit STAT transcription factors to the cytokine receptor where Tyk2 is associated. Tyk2 then phosphorylates proximal Stat factors, which subsequently dimerize, translocate to the nucleus, and bind to *cis* elements upstream of target gene promoters to regulating transcription. The canonical JAK-STAT pathway is integral to maintaining a normal immune system by stimulating proliferation, differentiation, survival, and host resistance to pathogens. Cytokine induced pro-inflammatory responses are attractive targets for anti-inflammatory therapies, specifically at the level of JAK-Stat signaling.

## CHROMOSOMAL LOCATION

Genetic locus: TYK2 (human) mapping to 19p13.2; Tyk2 (mouse) mapping to 9 A 3.

## SOURCE

Tyk 2 (H-135) is a rabbit polyclonal antibody raised against amino acids 120-255 mapping near the N-terminus of Tyk 2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Tyk 2 (H-135) is recommended for detection of Tyk 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Tyk 2 siRNA (h): sc-36764, Tyk 2 siRNA (m): sc-36765, Tyk 2 shRNA Plasmid (h): sc-36764-SH, Tyk 2 shRNA Plasmid (m): sc-36765-SH, Tyk 2 shRNA (h) Lentiviral Particles: sc-36764-V and Tyk 2 shRNA (m) Lentiviral Particles: sc-36765-V.

Molecular Weight of Tyk 2: 115/130 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

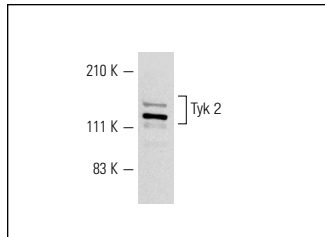
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

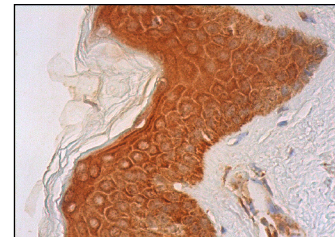
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## DATA



Tyk 2 (H-135): sc-7205. Western blot analysis of Tyk 2 expression in NIH/3T3 whole cell lysate.



Tyk 2 (H-135): sc-7205. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic and nuclear staining of fibroblasts, keratinocytes, Langerhans cells and melanocytes.

## SELECT PRODUCT CITATIONS

1. Saouaf, S.J., et al. 1994. Temporal differences in the activation of three classes of non-transmembrane protein tyrosine kinases following B-cell antigen receptor surface engagement. *Proc. Natl. Acad. Sci. USA* 91: 9524-9528.
2. Bhunia, A.K., et al. 2002. PKD1 induces p21<sup>waf1</sup> and regulation of the cell cycle via direct activation of the JAK-STAT signaling pathway in a process requiring PKD2. *Cell* 109: 157-168.
3. Fagerlund, R., et al. 2002. Arginine/lysine-rich nuclear localization signals mediate interactions between dimeric Stats and Importin  $\alpha$  5. *J. Biol. Chem.* 277: 30072-30078.
4. Shaw, M.H., et al. 2003. A natural mutation in the Tyk 2 pseudokinase domain underlies altered susceptibility of B10.Q/J mice to infection and autoimmunity. *Proc. Natl. Acad. Sci. USA* 100: 11594-11599.
5. Podewski, E.K., et al. 2003. Alterations in Janus kinase (JAK)-signal transducers and activators of transcription (STAT) signaling in patients with end-stage dilated cardiomyopathy. *Circulation* 107: 798-802.
6. Muthian, G., et al. 2006. *Setaria digitata* secreted filarial lipids modulate IL-12 signaling through JAK-STAT pathway leading to the development of Th1 response. *Exp. Parasitol.* 114: 193-203.
7. Choudhary, C., et al. 2007. Activation mechanisms of Stat5 by oncogenic Flt-3-ITD. *Blood* 110: 370-374.
8. Ide, H., et al. 2008. Tyk 2 expression and its signaling enhances the invasiveness of prostate cancer cells. *Biochem. Biophys. Res. Commun.* 369: 292-296.


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